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Pragmatic considerations and social benefits: An analysis of engagement with a fly-tipping reduction project

Abstract

This paper reports on survey data collected from residents at five London estates toward the end of a pilot intervention designed to reduce fly-tipping and to increase re-use of items. The intervention focused upon developing centres, called Loops, within each estate at which broken and unwanted items could be repaired, improved, sold and bought. Various repurposing and repair skills were also imparted to residents through workshops and other activities (Phillips, 2017). Attitudes toward recycling and the future were assessed, as well as views on the amount and causes of fly-tipping. Questions about the social benefits of engaging with the project were also pursued. The only predictor of strong engagement with the Loops was a belief that people only fly-tipped when they had no choice. A second model, looking to predict whether or not residents had heard of the Loops, showed that convenience in conjunction with the view that there was a lot of fly-tipping, as well as age, were significant contributors. Both models strongly suggest that fly-tipping is thought of pragmatically, and not in the context of broader attitudes about the environment and future. Residents reported that engagement in the project did cause changes to their recycling and repurposing behaviours and that engagement also conveyed social benefits including increases in size of social networks.

Introduction

The Repurpose Project was a three-year European Union LIFE+ funded pilot scheme designed to reduce fly-tipping at five London estates. The Repurpose Project (henceforth referred to as the project) was led by Groundwork London, an environmental community charity, and partnered by the London Community Reuse Network and Middlesex University (London). The project formally came to an end in 2017. The core effort of this scheme was to encourage re-use of items through the

development of centres (referred to as Loops) on each estate. Each Loop would enable the repair, sale and purchase of old items, whilst also training local people in how to repair items and educating them about the benefits of re-use. Loops were run largely by volunteer effort under the direction of staff employed by Groundwork. Loops were created from existing and underused spaces within the five estates. For example, the Loop at Grahame Park was created from a disused betting shop at the heart of the estate. The shop was refurbished and two interconnected functional spaces created – one for repairs and one for sales. From these centres activities were run to engage the residents in the project, and items were collected and brought to the Loops by residents, volunteers and Groundwork staff.

Middlesex University ran a series of behaviour change workshops for Groundwork staff at Groundwork London headquarters. These workshops were designed to facilitate planning of engagement activities by Groundwork staff. At these workshops staff were introduced to key theories of behaviour change and then asked to develop ideas for activities that could be run according to behaviour change principles. These activities were then written up and shared between all Groundwork staff on the project.

The key objectives for the project were to engage residents in order to reduce fly-tipping of re-usable items on the estates by 25%; to increase re-use in those same estates by 25%; and, to train the local residents in repair and re-use practices. Loops were seen as interventions that would facilitate practical aspects of dealing with unwanted items, but also demonstrate the residual economic value of unwanted items, thereby providing a direct benefit to the residents. Moreover, residents would be able to access repurposed and refurbished items at considerable savings relative to the market value for new goods. This economic activity was embedded within clear messages about the environmental benefits of recycling and repurposing, and the costs of fly-tipping. The project was largely successful in meeting these objectives (see Phillips, 2017). Alongside this effort Middlesex University monitored attitudes about re-cycling and re-use, and also assayed any additional benefits accruing as a result of the project. It is this activity that is the focus of the current paper.

Toward the end of the project, from December 2016 to January 2017, a resident survey was conducted across the five estates. The survey adopted and adapted two existing attitudinal measures (see below). The first assessed attitudes toward recycling and repurposing of objects. The second assessed to what extent residents reported that future consequences helped to determine current actions. Data were also collected about social connectedness and engagement with the Loops, as well as about general awareness of fly-tipping as a problem and of existing facilities and practices for dealing with unwanted objects. Whilst no formal hypothesis was pursued in this exploratory and pilot project, a guiding research question was to understand whether or not those residents who reported using future consequences to guide current actions were more likely to have positive attitudes toward recycling and repurposing, and were more likely to engage with the Loops. Secondly, we were interested in the social connectedness of those who chose to engage with the Loops. Fly-tipping and more generally littering are problems that could conform to a tragedy of the commons dynamic (Hardin, 1968). It is possible that the more isolated individuals are then the less ownership of the commons and its problems they have. Equally, coming together to solve a commons problem should increase social connection.

Participants

Both the Grahame Park (Barnet) and the White City (Hammersmith) estates were large, with close to 2000 households each. The Andover (Islington) and Pembury (Hackney) estates had approximately 800 households each, and the Warner Road (Samuel Lewis Trust; Lambeth) estate had just 250 households. These estates were selected by Groundwork London based on previous working relationships with the relevant local authorities. All estates had problems with fly-tipping (see Phillips, 2017, for details).

A decision was reached not to pursue socioeconomic data collection during any phase of the project as this was felt to be too intrusive and also likely to discourage participation. The only demographic data recorded was the age range and sex of residents sampled. Similarly, it was decided not to track individual residents across the duration of the project. Both of these decisions were based upon the prior

experience of Groundwork London where distrust of third party data collection on these estates was high, with fears that individualized data could be used to make detrimental decisions about residents. Groundwork London's experience, whilst anecdotal, gives some indication of the challenges faced by residents on the estates. These estates would be described as deprived areas. However, as with much of London, they are areas undergoing change. For example, Grahame Park is to be demolished and new development built, leading to rehousing for residents and schemes to entice a broader demographic to the area.

In total, 393 residents were questioned across the Andover, Grahame Park, Pembury, Warner Road and White City estates in London. 277 residents had heard of the Repurpose project (assayed by asking whether or not they had heard of the Loop prior to any engagement with it). Of those, 229 were sampled from residents who were known to have engaged with the Loop at some point in the project and 48 were randomly selected residents.

The majority of residents surveyed were from the Grahame Park estate (251) while Warner Road yielded 16, Pembury 40, Andover 36 and White City 50 participants each. Of those that disclosed, 215 were female and 120 were male and the age sample was close to a normal distribution (Figure 1).

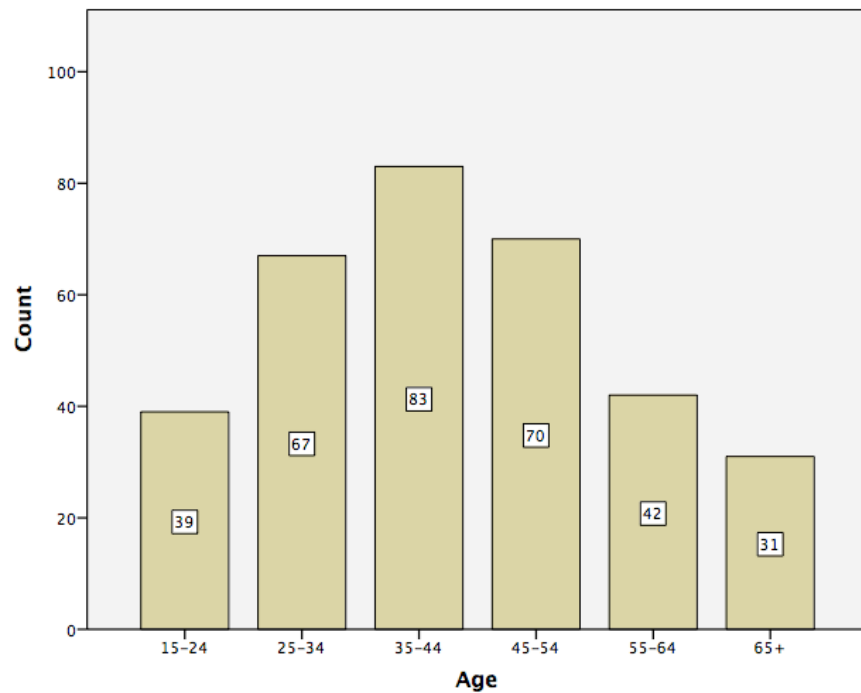


Figure 1: The age distribution (n=332), from all estates, of participants surveyed. Numbers within the columns refer to count data.

Methods and participant engagement

Participants were engaged by Groundwork London staff at their homes and asked to respond to a series of questions. Residents known to the project organizers were targeted, along with residents chosen at random. Participants' verbal responses were recorded via a spreadsheet using a digital tablet device. All questions are presented in the appendix.

Two attitudinal measures formed part of the question set. The first, was a slightly modified version of a 18-item scale assessing general attitudes toward recycling (Sidique, Lupi, & Joshi, 2010). The modification was simply to include terms referring to reuse and repurposing within the questions. This scale captures four factors: **Attitudes** to recycling, predominantly focused upon the extent to which participants believe attitudes are good for the environment and for personal outcomes; views on the **Convenience** of recycling; **Social Pressure** to recycle; and, how **Familiar** participants were with recycling options. By error one item was dropped from the Attitudes factor, so 17 items were used. Responses are given on a

five point Likert scale, where 1 indicates strong agreement and 5 strong disagreement.

The second measure, the 12-item Consideration of Future Consequences (CFC) scale (Strathman, Gleicher, Boninger, & Edwards, 1994), assessed to what extent residents' used the future consequences of actions to determine their current behaviour. This is a generic and one-dimensional scale that asks participants to think about the majority of their behaviour. The original questions for this scale were repackaged in a simpler register designed to be more readily understandable by a diverse participant pool. This scales also uses a five point Likert scale where a score of 1 indicates that participants are very unlikely to consider the future consequences of an action, and 5 indicates that they are very likely to consider future consequences. This gives an available range of scores from 12 to 60, with 36 as a mid point score. Scores increasing in value above 36 indicate increasing consideration of future consequences for actions.

Both measures were checked for reliability. Cronbach's alpha for the modified 17-item general attitudes to recycling and repurposing scale was 0.79, and for the modified CFC scale was 0.76. Generally, 0.7-0.8 is regarded as an acceptable value, especially if the scales have a small number of items, which both did (Field, 2007). Field advises running reliability analyses within factors. To this end, Cronbach's alpha was also calculated for Attitudes (0.92), Convenience (0.78), Social Pressure (0.79) and Familiar (0.80) factors.

Participants were also asked if they had ever heard of the Loop project before the full data collection began. Given that the construction of Loop centres was the most salient feature of the Repurpose project for residents, we assumed (and hoped) that news of Loop project might have reached them. We also hoped that participants would have engaged, so they were also asked in what way they had engaged with the project, from which a dummy variable of engagement strength was created. Participants were regarded as having weak engagement if they had only walked past or heard of the Loop, and strong engagement if they had used the Loop to donate items, buy, volunteer, or attended an event or training at the Loop. A Pearson Chi-square analysis was conducted across the two categories (Heard of the Loop

(Yes/No) and Strength of Engagement (Strong/Weak)). This proved significant ($\chi^2=25.79$, $df=1$, $n=309$, $p=0.0001$) with the likelihood of weak or strong engagement being higher in those who had previously heard of the Loop. This is to be understood as a reliability measure. Logically participants who had not heard of the Loops should not have engaged with them in any form, this analysis confirms that their self-report is consistent.

It should be noted that having only heard of the Loop was also a criterion for weak engagement; so the assumption was that those who had not heard would fall into the weak category. However, of the 30 participants that had not heard of the Loop, four were strong engagers. A further 79 had not heard of the Loop and had not responded to the engagement question. It is likely that the four who had not heard, but had engaged strongly, interpreted the question differently, assuming it was asking about knowledge prior to the project arriving in the estate. Overall, relying on self-report alone, 72% of the 393 residents sampled had heard of the Loop.

Other questions interrogated participants' perceptions of fly-tipping on the estate as well as their views about fly-tipping; what they would do with broken and with unwanted items; whether their recycling and reusing behaviour had changed since hearing of the Loop; whether there had been any changes in their social behaviour since getting involved with or simply hearing of the Loop; and whether or not they engaged with their neighbours by stopping and talking with them and the number of neighbours they felt they could call upon for help.

Participants were given a range of options to choose from when dealing with broken or unwanted goods and asked to choose which they were most likely to adopt. The broken goods question used two examples – furniture and a fridge – and this sometimes elicited a double response. Similarly, some participants gave multiple responses to the question about unwanted goods. In both cases the first response was adopted as an analysis variable unless the first response was “none of the above” in which case the next substantive response was taken.

Other than the formal measures adopted to assess attitudes to recycling and repurposing, and consideration of future consequences (CFC), all questions were

developed by Groundwork London in consultation with Middlesex University. No stipulation was made about the order in which Groundwork London staff asked the questions.

Consideration of Future Consequences and attitudes to recycling and re-use

Descriptive statistics for the CFC and recycling scales are presented in Table 1. The data is normally distributed and the means from the recycling scale tend to the central point on the 1 to 5 Likert scale adopted to assess attitudes etc., with standard deviations indicating less than a one scale-point shift either side. This suggests that 68% of the population is drifting toward the central response. None the less, there is variance within the overall sample.

A one-way analysis of variance (ANOVA) was conducted to assess the difference in CFC scores across the five estates. This was significant ($F=3.82 (4,327)$, $p<0.005$). Subsequent independent t-tests demonstrated that Grahame Park had a significantly lower mean CFC score than White City, Warner Road and Pembury. The higher the score on CFC then the more consideration is given to future consequences of current actions.

Table 1: Descriptive statistics for all four factors from the modified Sidique et al. (2010) and Consideration of Future Consequences Scale (CFC; (Strathman et al., 1994)) measures collapsed across all estates.

	Attitude	Convenience	Social Pressure	Familiar	CFC
Mean	3.94	2.52	3.10	3.70	40.57
Median	4.00	2.33	3.00	4.00	42.00
Mode	4.00	2.00	3.00	4.00	42.00
Standard Deviation	0.56	0.85	0.79	0.85	4.95

During an initial baseline survey period (July-August 2015) for the Repurpose project an ANOVA was conducted to investigate differences in response to the four factors across the five estates, from 74 participants (a sub-sample of a wider survey conducted at the time). A significant effect was found for Attitude ($F=12.10$ (4,69), $p<0.0001$). Post hoc Bonferroni analyses revealed that there were significant differences between Warner Road and Grahame Park, Pembury and White City, Grahame Park and White City, and Andover and White City (see Figure 2). There were no other significant effects for the other factors.

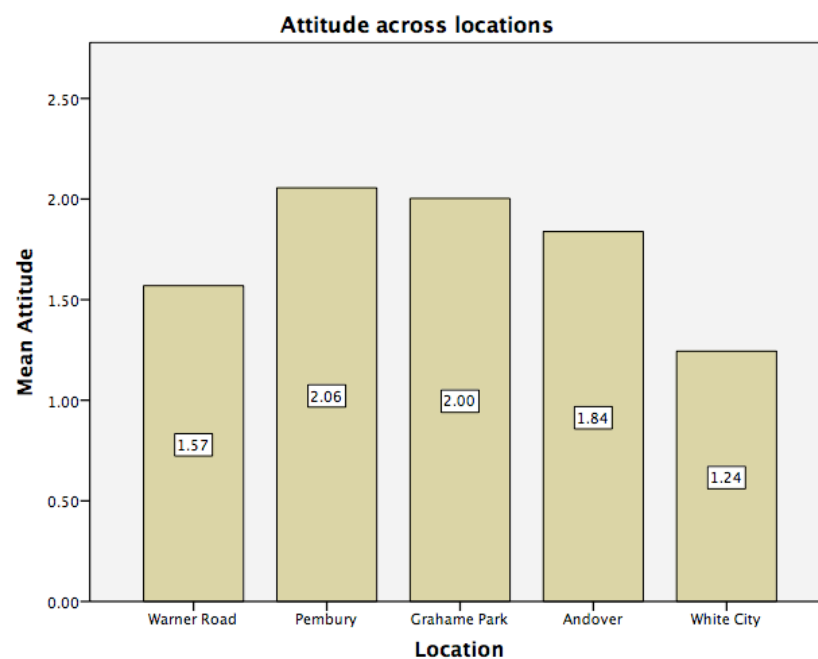


Figure 2: Mean Attitude scores for each location. Note that a score of 1 indicates strong agreement and 5 strong disagreement. All locations seem to produce agreement as a mean response. The items in this factor were all assessing how much residents agreed with statements indicating positive personal and environmental outcomes from recycling.

A similar analysis was conducted on the data reported here. The data violated assumptions around the homogeneity of variance; given this a Kruskal-Wallis H-test was employed. Responses to all four constructs were unevenly distributed across the five estates: Attitude ($H=35.466$, $df=4$, $p=0.0001$); Convenience ($H=38.087$, $df=4$, $p=0.0001$); Social Pressure ($H=16.903$, $df=4$, $p=0.002$); Familiarity ($H=42.259$, $df=4$,

$p=0.0001$). This was followed up with pairwise comparisons. For Attitude and Familiarity, Grahame Park differed significantly from all other estates; for Social Pressure only Grahame Park and White City differed significantly; and Convenience was significantly different between Warner Road and both White City and Grahame Park. In short, residents at Grahame Park were more positive in their attitudes and more familiar with existing recycling options, compared with those on other estates. Grahame Park residents also felt more social pressure to recycle and reuse than their counterparts in White City, and found recycling and reuse marginally more convenient than residents in Warner Road. It is likely that the very much larger sample size from Grahame Park contributed to this effect and due caution should be applied when interpreting these findings.

Four linear regressions were conducted between CFC (as a predictor variable) and Attitude, Convenience, Social Pressure and Familiarity (as dependent variables) using the pooled data from all estates. All analyses were significant (see Table 2).

Table 2: Results of four linear regressions with CFC as the predictor variable.

Dependent variables	<i>F</i>-ratio	<i>p</i>=	<i>Adjusted-R</i>²	<i>Standardized β</i>
Attitude	94.12 (1,331)	0.0001	0.22	0.47
Convenience	56.39 (1,331)	0.0001	0.14	-0.38
Social Pressure	27.18 (1,330)	0.0001	0.07	0.28
Familiarity	53.35 (1,331)	0.0001	0.14	0.37

As can be seen from Table 2, CFC predicts approximately 22% of the variance in Attitude, 14% in Convenience and Familiarity each, and only 7% in Social Pressure. The standardized beta values give indication to the direction of this effect. It is negative only for Convenience. This construct is negatively phrased; therefore

residents who consider the future more find the current facilities less convenient. A key question for Convenience was about lack of time; it would appear that those who consider the future might also regard themselves as having less time to perform key recycling and repurposing tasks. The standardized beta values also give indication of the effect sizes. They should be interpreted as follows: for every single unit increase in CFC (the predictor) the dependent variable will shift by this fraction of a single unit in a positive or negative direction. For example, for every one unit increase in CFC, the attitude score shifts by 0.47 of a unit. As attitudes are scored from 1 to 5, a marginal increase in CFC would begin to significantly shift attitudes. This relationship suggests that the more individuals consider the future consequences of their actions the less likely they are to agree that their recycling behaviour has a significant positive impact on the environment. Note, that overall, scores are tightly distributed and the full range of scoring has not been used (Table 1).

Perceptions of fly-tipping

A key objective was to tackle fly-tipping in the estates. Residents were asked about their perception of the amount of fly-tipping and whether or not it was a problem. Population level responses to these yes/no questions are displayed in Table 3.

Table 3: Percentage of the residents (n=393) responding yes or no to specific questions about fly-tipping.

	Yes	No
A lot of fly-tipping	71.9	28.1
Fly-tipping has little impact	36.4	63.6
Fine people who fly-tip	68.2	31.8
People only fly-tip when there is no choice	29.3	70.7
Fly-tipping is not a problem	29.2	70.8

Fly-tipping is normal	32.3	67.7
Concerned things could be repaired	78.7	21.3

As can be seen the general view is that there is a lot of fly-tipping on the estates, and that it is a problem. Fly-tipping is not regarded as a normal behaviour, and it is one that most feel should attract the punishment of a fine. There is also a consensus that many of the items could be repaired. One must be cautious of demand characteristics when interpreting this data, as questions were asked within the context of a general enquiry about the Repurpose project, which was expressly designed to tackle fly-tipping and to repurpose objects.

Dealing with broken and unwanted goods

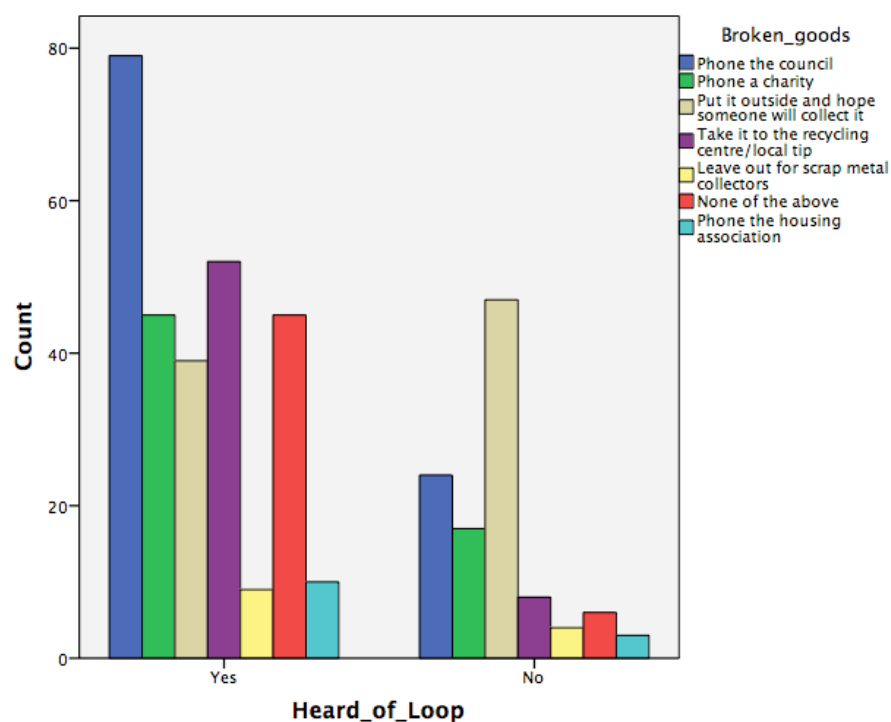
Pearson Chi-square tests were executed across the choice categories for each question, using the yes/no categorization from the self-report question asking if participants had heard of the Loop. This enabled the use of most of the data, and captured a distinction between those who were aware and those who were not.

The analysis for broken goods proved significant ($\chi^2=44.62$, $df=6$, $n=388$, $p=0.0001$) and also for unwanted goods ($\chi^2=39.03$, $df=6$, $n=386$, $p=0.0001$). The pattern of the differences across Yes/No (Heard of Loop) can be seen in Figure 3. A notable finding here is that very few people who had not heard of the Loop would consider taking a broken item to the tip or local recycling centre; but phoning a charity about an unwanted item was a popular option for both categories of resident.

More specifically, a Pearson Chi-square analysis tests for associations in data. The test calculates expected frequencies of individuals within each of the behavioural choice categories, organized by having heard of the Loop (Yes/No) and compares them with observed frequencies. If the observed frequencies differ radically then the test is statistically significant. In this case, fewer people than expected in the Yes (heard of the Loop) category opted for leaving broken items outside in the hope that

they will be collected; and, more than expected have opted to recycle or take to the tip. The exact reverse of this trend is true for those who had not heard of the Loop (so, more than expected opted to leave broken items outside, and fewer than expected opted to take them to the tip or recycle).

Of those who had heard of the Loop, fewer than expected left unwanted items outside in the hope of collection; and more than expected opted for none of the above. For those who had not heard of the Loop, more than expected phoned a charity, left items outside in the hope of collection, and used the internet to find a new home. It would seem that broken items are more of a problem for those who had not heard of the Loop, compared to unwanted items.



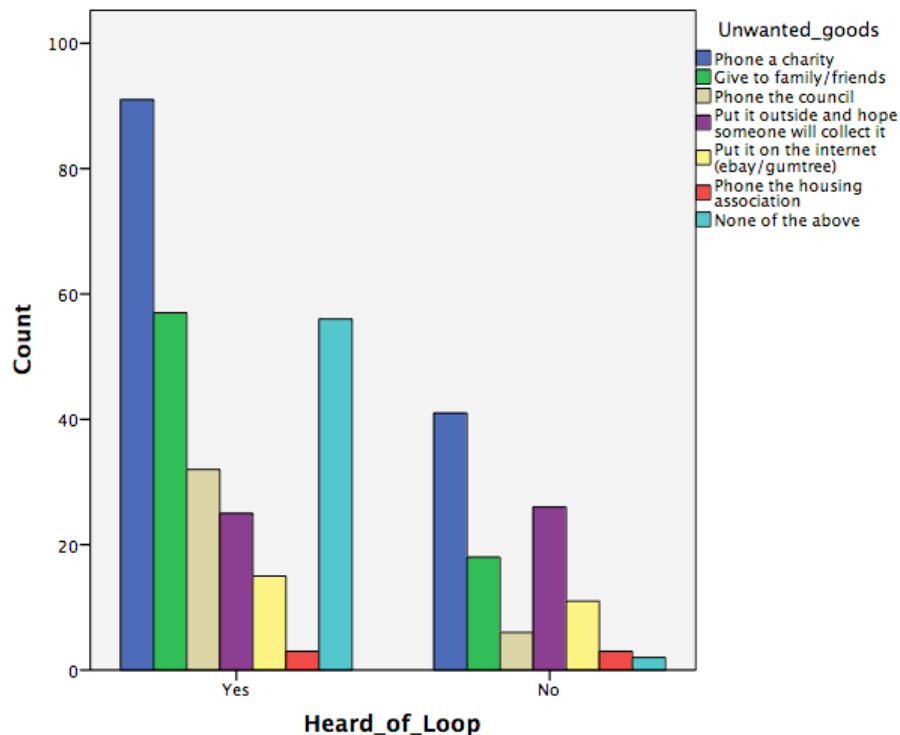


Figure 3: Predicted choices for dealing with broken and unwanted goods made by residents across all estates, organised by whether or not they had heard of the Loop.

Self-reported Recycling Behaviours and Social Benefits

Participants were asked whether they had improved recycling related behaviours since hearing of the Loop. 187 participants did not respond to this question, leaving 206 that did. As with previous questions, there were multiple responses recorded. In this case, as all categories were positive behavioural choices, any participant with two or more was recorded as having undertaken multiple behavioural changes. The data are presented in Figure 4.

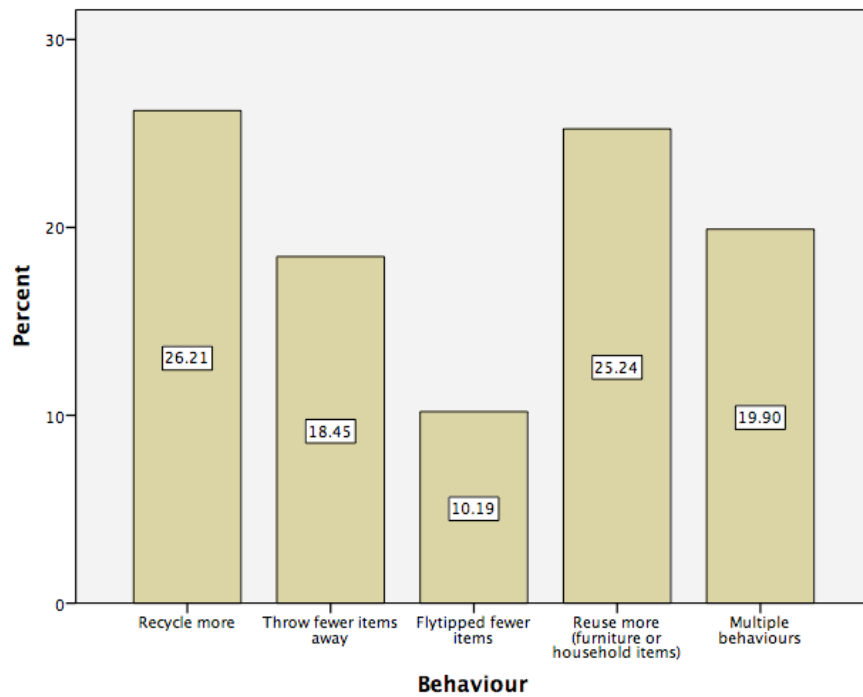


Figure 4: Percentage of participants (n=206) reporting increases in recycling and re-use related behaviours since engagement with the Loop, organized by behavioural category. Precise percentages are given in the within bar annotations.

Participants were also asked if they had better social connections, improved confidence or both since hearing about, or getting involved with the Loop. 166 participants chose to answer this question, and the data are presented in Figure 5.

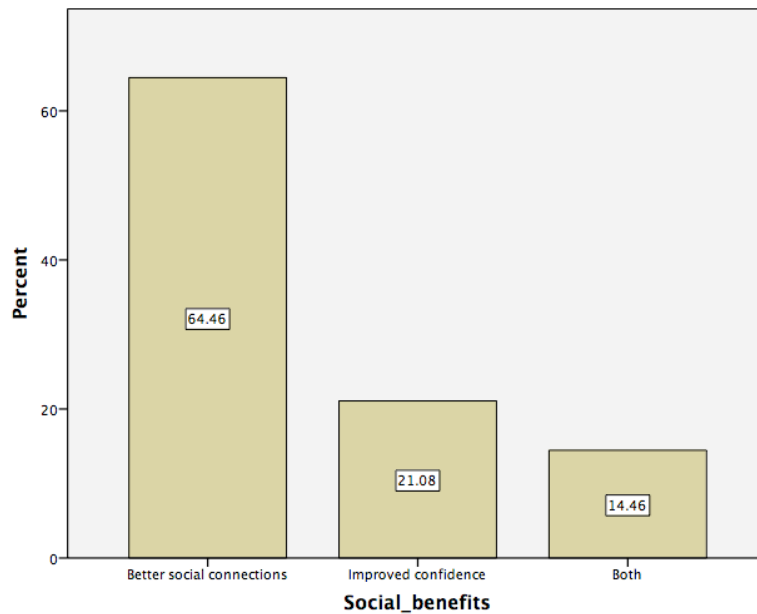


Figure 5: Percentage of participants (n=166) reporting social benefits since engagement with the Loop, organized by benefit category. Precise percentages are given in the within bar annotations.

Of those who disclosed information about how many neighbours they could call upon for help, those who had heard of the Loop (n=222) reported significantly more neighbours to call upon than those who had not heard of the Loop (n=69; $t=3.06$, $df=289$, $p=0.002$). This amounted to a mean difference between 5.8 (heard) and 2.2 (not heard) neighbours by category. When analysed by strength of engagement (strong n=146; weak n=93) there was a significant difference between the two group means of 7.04 and 3.18 neighbours, in favour of the strong engagement group ($t=3.18$, $df=237$, $p=0.002$). This suggests that strength of engagement is related to sociality; given that self-report data indicates a large increase in social connectedness we can cautiously hypothesize social benefits accruing from engagement with the Loops and the Repurpose project.

Of those participants that disclosed (n=118), there was no statistically significant difference between them (by groups), with regard to how strongly they agreed with the statement “I regularly stop and talk with people in my neighbourhood.” The mean response was Agree.

Assessing Engagement with the Loops

A series of binary logistical regression models were run, using engagement strength as the outcome variable. No significant main effects were found for Attitude, Social Pressure, Convenience or Familiarity, nor for CFC or any other categorical variables assaying views about fly-tipping; other than the item asking for a yes/no response to the statement “People only fly-tip when they have no choice.” As can be seen from Table 3 a smaller proportion of participants responded yes to this category. None the less, making this response more than doubled the odds of strong engagement with the Loop ($Exp-\beta=2.24$ (1.35-3.70 95% CI), $df=1$, $p=0.02$). It is worth noting that this model only correctly allocated 61% of the participants to the correct strength of engagement group; but this is a significant improvement on a constant only model. What this indicates is that other, unmeasured variables, will be contributing to strength of engagement.

Second, generalized linear modelling (GLM) was used in order to see which combinations of variables best predicted whether or not residents had heard of the Loop. A series of main effect GLM models were produced, using a binomial probability distribution with a logit link. This produced close to equidispersion for each model produced.

The modelling strategy was as follows. First, a main effects model including *CFC*, *Attitudes*, *Familiarity*, *Social Pressure*, and *Convenience* as covariates was produced. Then this model was used as a core to add responses to neighbourly interactions, Age, Sex and each Yes/No response variable referring to fly-tipping as a factor (one at a time; no cumulative factorial model was produced). Aikake Information Criterion scores, corrected for small samples (AICC) were then compared (Burnham & Anderson, 2001) between each model. Generally the lowest AICC value represents the best-fit model. Models that differ by <2 are regarded as being similarly good fits, but models differing by >2 are regarded as less good fits.

Within each model effect sizes for each variable were also assessed for size and significance. Where variables were repeatedly making no statistically significant

difference to the model, they were removed. Table 4 displays the core model (model 1) and the best models by information theory criteria. Model 5, the simplest main effect model, is by far the best.

Table 4: Main effects models, AICC values and difference in AICC (Δ AICC) compared with the lowest value model.

Model	Predictors	AICC	Δ AICC
1	CFC, Attitudes, Familiarity, Social Pressure, Convenience	278.986	27.198
2	Model 1 + Age	266.701	14.913
3	Model 2 + Sex	265.944	14.156
4	Model 2 + A lot of fly-tipping	258.984	7.196
5	Convenience + Age + A lot of fly-tipping	251.788	-

All three-way and two-way interactions were modelled for the variables in Model 5 (Table 4). This did not improve upon Model 5 in terms of AICC values or statistical significance.

Table 5: Effect sizes for variables in Model 5 (see Table 4).

Variable	Wald	Significance (p=)	Degrees of freedom	Exp- β
Convenience	7.671	0.006	1	0.583
A lot of fly-tipping (Yes)	10.478	0.001	1	2.990
Age	12.590	0.0001	1	1.508

Table 5 gives the details of how the best model works. $\text{Exp-}\beta$ should be read as odds-ratios. Thus, for every 1-point increment of the associated independent (predictor) variable the odds of having heard of the Loop will increase by so much.

Increasing values of the Convenience variable indicate that residents find existing recycling facilities inconvenient. Table 5 makes clear that the more inconvenient residents found such facilities the less likely there were to have heard of the Loop (as the odds ratio was less than 1). In other words, if they found them convenient they were more likely to have heard of the Loop. This could be because the Loop provided a convenient facility and they have included this in their assessment. If residents felt there was a lot of fly-tipping they were almost three times as likely to have heard of the Loop than residents who did not feel there was a lot of fly-tipping. Finally, older residents were more likely to have heard of the Loop.

Concluding comments

Overall, the data allow us to cautiously conclude that the Loops did help a good proportion of residents sampled to increase recycling and repurposing behaviours. Moreover, residents also reported social benefits from engagement with the Loop. Those residents who had heard of the Loop felt that they could call upon significantly more neighbours to help them when in need, suggesting that prior social connections may have either facilitated take up of the Loop offer, or that more social engaged people are more likely to look for such opportunities. Exploring the role of social networks should prove fruitful in any future work.

The only predictor of strong engagement with the Loop was a belief that people only fly-tipped when they had no choice. Whilst the model was statistically significant much variance is still unaccounted for. None the less, it implies that the problem is regarded as one of opportunity; and the Loops clearly fill that need. The second model, looking to predict whether or not residents had heard of the Loops, showed that convenience in conjunction with the view that there was a lot of fly-tipping, as well as age, were significant contributors. Both models strongly suggest that fly-tipping and the more general issue of what to do with broken items are seen purely

pragmatically, and not in the context of broader attitudes about the environment and future.

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Appendix

Questions adapted from Sidique et al. (2010)

Please respond to the following statements using the five-point scale below:

- 1: Strongly disagree*
- 2: Disagree*
- 3: Neither agree nor disagree*
- 4: Agree*
- 5: Strongly agree*

For me, household recycling and re-use is a difficult task

I do not have enough time to sort the materials for recycling or re-use

The recyclables that I store attract pests

I am familiar with the recycling and re-use facilities in my area

I am familiar with the materials accepted for recycling and re-use in the facilities in my area

My neighbours expect me to recycle and re-use household materials

My friends expect me to recycle and re-use household materials

My family expect me to recycle and re-use household materials

I feel good about myself when I recycle or re-use

Recycling and re-use is a major way to reduce pollution

Recycling and re-use is a major way to reduce wasteful use of landfills

Recycling and re-use is a major way to conserve natural resources

Recycling and re-use will improve environmental quality

I believe that my recycling and re-use activities will help reduce pollution

I believe that my recycling and re-use activities will help reduce wasteful use of landfills

I believe that my recycling and re-use activities will help conserve natural resources

I believe that my recycling and re-use activities will help improve environmental quality

Adapted CFC measure:

For each of the statements below, please indicate whether or not the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please write a "1" to the left of the question; if the statement is extremely characteristic of you (very much like you) please write a "5" to the left of the question. And, of course, use the numbers in the middle if you fall between the two extremes. Please keep the following scale in mind as you rate each of the statements below.

1	2	3	4	5
<i>Very unlike me</i>	<i>Quite unlike me</i>	<i>Not sure</i>	<i>Like me</i>	<i>Very much like me</i>

I think about the future, and try to improve it with the decisions I make now.

I often do things now that will have an impact in many years time.

I only think about now, the future will work itself out.

I make decisions based on what their impact will be over the next couple of days/weeks.

I make decisions based on what will be easiest now.

I am willing to make sacrifices now to have a better future.

I worry about the influence actions I take now might have on the future.

It is more important to do things that will have a big impact on the future than things that will have a little impact on the present.

I don't worry about problems in the future, they will be sorted out in time.

There's no point sacrificing now as we can deal with the future when it comes.

I live for now, I will deal with future problems in the future.

Because the outcomes of what I do now are clear, future outcomes are less important.

Other questions:

If you had broken furniture or a broken fridge what would you do with it?

Phone the council

Phone a charity

Put it outside and hope someone will collect it

Take it to the recycling centre/local tip

Leave out for scrap metal collectors

Phone the housing association

None of the above

If you had an item that you no longer wanted but you thought could be used by someone else, what would you do with it?

Phone a charity

Give to family/friends

Phone the council

Put it outside and hope someone will collect it

Put it on the internet (ebay/gumtree)

Phone the housing association

None of the above

There is a lot of fly tipping in my neighbourhood – Yes/No

Fly tipping has little impact upon the environment – Yes/No

People who fly tip should be given a large fine – Yes/No

People only fly tip when they have no choice – Yes/No

Fly tipping is not a problem as someone always cleans it up – Yes/No

Fly tipping is normal; most people do it – Yes/No

I am concerned that things that could be repaired are going to waste – Yes/No

Have you heard of The Loop before? – Yes/No

Since hearing about the Loop, have you improved any of these behaviours below?

Recycle more

Throw fewer items away

Fly-tipped less items

Re-use more

Since hearing about/getting involved in the Loop have you experienced any of these impacts?

Better social connections

Improved confidence

To what extent do you agree with this statement: I regularly stop and talk with people in my neighbourhood.

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree